

The Link between Negative Life Events and Depression

Aanchal Miglani, Priya Sivashankar, R Rajkumar

¹Postgraduate, Department of Psychiatry, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu, India, ²Associate Professor, Department of Psychiatry, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu, India, ³Professor, Department of Psychiatry, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu, India

Abstract

Introduction: Depression is a widespread mental condition that affects people in India and all across the world of different ages, genders, and socioeconomic positions. Stressful life events (SLEs) can occur before or concurrently with other mental or physical health issues.

Aim: The study aims to assess the severity of depressive symptoms, the presence of SLEs, and the correlation between SLEs and the severity of depression.

Methods: A cross-sectional study was conducted in a tertiary care hospital from March 2021 to March 2022. One hundred and fifty individuals diagnosed with major depressive disorder according to International Classification of Diseases-10 were evaluated for the severity of depressive symptoms and the occurrence of SLEs within the past 1 year using the Hamilton depression rating scale and presumptive SLEs scale.

Results: One hundred and fifty depressed people between 18 and 62 were enrolled. The mean age was between 37.9 ± 11.9 years. Women were found to experience major depressive disorder compared to men $p < 0.05$. It was more prevalent in the 2nd decade of life. As the severity of SLEs increases, the severity of depressive disorder also increases – a significant positive correlation between the total presumptive SLEs and the Hamilton depression rating scale.

Conclusion: The severity of the depressive disorder is higher among women, especially in middle age. In addition, as the severity of SLEs increases, the severity of depressive disorder also increases.

Key words: Depressive disorder, Stressful life events, Mental condition, Negative thoughts

INTRODUCTION

The old and traditional Latin words depressant and deprimerie are used to denote depression. Deprimerie is essentially described as “pressing down,” because de means “down” and primerie means “to push.” The word essentially refers to feeling “pushed down,” which is sometimes described as feeling “sad,” “blue,” or even plain “down” or “depressed.” It was simply a phrase for a decline in mood or spirit when it was first used in 1665 to describe

a mental or emotional disease.^[1] Thus, it appears that the primary depressive experience, or dysphoria in psychiatric words, is personal.

Depression is a widespread mental condition that affects people in India and all across the world of different ages, genders, and socioeconomic positions. Estimates place the prevalence of MDD at 3.2–4.7% worldwide and predict that by 2030, unipolar depression will surpass bipolar illness as the second-leading source of disease burden.^[2,3]

Stressful life events (SLEs) can occur before or concurrently with other mental or physical health issues. They are frequently associated with the development of major depression in adults^[4,5] and adolescents.^[5] Or, they might exacerbate depression symptoms that already exist.^[1,3] According to the kindling theory

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Corresponding Author: Dr. Aanchal Miglani, Department of Psychiatry, Sree Balaji Medical College and Hospital, Chennai - 600 117, Tamil Nadu, India.

(Post, 1992), initial bouts of mood disorders are more likely than subsequent episodes to be brought on by acute psychosocial stressors. The later episodes may take place even in the absence of stress or with only minor stressors.^[14] Few people react to such stressful life circumstances more negatively than others, and comprehending the nature of this connection has emerged as an important research topic.^[6,7]

Life events are “discrete occurrences interrupting a person’s routine, resulting in a significant change and readjustment.”^[8] These occurrences could encourage someone to face the problem with optimism and productivity, or they might hurt that person’s well-being. Numerous life experiences – both good and bad – are important determinants of someone’s psychological health. The previous studies have shown that dependent life events are more connected with depression than independent life events. A dependent event is likely to occur as a result of the respondent’s activity (for example, being fired from a job), but an independent event occurs regardless of the person’s behavior or mental state (Williamson *et al.* 1995).^[9]

Researchers have been considering the role of life stresses in developing many physical and mental illnesses for decades. According to research, SLEs are linked to a disease’s eventual emergence.^[10,11] Stressful life circumstances have consistently been linked in the literature to subsequent major depressive episodes. “A significant proportion of people with depressive disorder say that SLEs occurred just before the beginning of depression.”

Aim

The study aims to assess the severity of depressive symptoms, the presence of SLEs, and the correlation between SLEs and the severity of depression.

MATERIALS AND METHODS

It is a cross-sectional study carried out at Sree Balaji Medical College and Hospital, Chennai. Patients visiting the hospital’s outpatient department for 1 year, from March 2021 to March 2022, were taken up for the study. Eligible participants included those diagnosed with major depressive disorder according to International Classification of Diseases (ICD)-10 criteria and registered in the psychiatry department of Sree Balaji Medical College and Hospital. The sample size was 150, and the convenient sampling method was selected. Participants who were currently experiencing depressive symptoms, aged 18–65 years of both genders, and were willing to give informed written consent to participate were included

in the study. Participants who were unwilling to give informed written consent and patients with cognitive impairment, intellectual disability, psychosis, hypomanic, manic, and mixed symptoms were excluded from the present study.

Data Collection and Analysis

The investigator-assessed patients registered in the psychiatry OPD and verified by the treating consultant. Those fulfilling the diagnostic criteria of the depressive disorder according to ICD-10 were approached for participation in the study. Those willing to participate in the study, fulfilling the inclusion, and exclusion criteria after obtaining informed written consent, were enrolled. A self-constructed and semi-structured pro forma was used to collect the sociodemographic details. History of psychiatric and medical illness, family history, and personal history was specifically enquired for. Hamilton depression rating scale (HAM-D) was used to assess the severity of the depressive disorder. A person’s response to the first 17 questions is used to compute their overall score. Normal scores range between (0–7), mild (8–13), moderate (14–18), and severe depression (19–22).

The presumptive SLEs scale (PSLES) was used to check for stressful events. It consists of 51 life events that an average Indian is likely to encounter. It provides a quantitative estimate of the presumed stressors as experienced.

SPSS version 25 was used to carry out the statistical analysis. Demographic data involving continuous variables were represented as percentage distribution or frequencies and mean with standard deviation. An independent *t*-test was used to compare the mean between two continuous variables. The Chi-square test was used for comparing categorical variables. $P < 0.05$ was considered significant, and linear correlation analysis was performed for presumptive SLEs and the severity of the depressive disorder.

RESULTS

Age, Gender, and Marital Status and Education and Profession

One hundred and fifty depressed people between 18 and 62 were enrolled. The mean age was between 37.9 ± 11.9 years. Most of the study sample comprised females (65.3%, $n = 98$) males accounted for (34.7%, $n = 52$). About 73.2% of the study population were married ($n = 110$), 15.3% were unmarried ($n = 23$), 5.3% were separated ($n = 8$), 5.3% were widowed ($n = 8$), and 0.67% were divorced ($n = 1$).

Among the study population of depressed individuals, 4.0% ($n = 6$) were illiterate, 8.0% ($n = 12$), and 10.0% ($n = 15$) had completed primary school and middle school,

respectively. In addition, 38.0% ($n = 57$) had completed high school, 8.7% ($n = 13$) had a professional degree, 4.7% ($n = 7$) possessed a diploma degree, and 26.6% ($n = 40$) were graduates.

A high percentage of the population were housewives (38.7%, $n = 58$), followed by professionals (14.0%, $n = 21$), skilled laborers (13.3%, $n = 20$), semi-professionals (11.3%, $n = 17$), semi-skilled laborers (6.0%, $n = 9$), unemployed (5.3%, $n = 8$), students (2.7%, $n = 4$), housekeeping department (0.7%, $n = 1$), and retired (0.7%, $n = 1$).

SLEs

Over the previous year, the average total presumptive SLEs score was 145.3 ± 76.4 , with a range of 44–487 (95% CI: 133.1–157.6). Therefore, the average number of presumptive SLEs experienced by each individual was estimated to range between 1 to 8 events. The frequency and percentage distribution of individuals who experienced SLEs during their lifetime are seen in the table below.

It was observed that a sizable percentage of the study population ($n = 52$, 34.7%) had two SLEs. (28.7%, $n = 43$) Individuals with three SLEs, one SLE was seen in ($n = 28$, 18.7%), five SLEs ($n = 5$, 3.3%), and a few people had seven to eight SLEs [Table 1].

The study sample of depressed individuals was, further, classified based on total presumptive SLEs scores: scores up to 40 were perceived as no stress, scores ranging between 41 to 200 as mild-to-moderate stress, and more than 200 as severe stress.

The entire study population had gone through SLEs, a significant proportion ($n = 124$, 82.7%) experienced mild or moderate SLEs, and the rest of the people ($n = 26$, 17.3%) underwent severe SLEs [Table 2].

Depressive Disorder

The average Hamilton score for depression was 15.9 ± 3.5 (ranging from 9 to 24; 95% CI: 15.4–16.5). Similar to the presumptive SLEs classification tool, the Hamilton depression rating scale is employed to categorize the severity of depression. Scores were substantiating mild (8–13), moderate (14–18), and severe (19–22) depression, respectively. Study results revealed that ($n=81$, 54%) individuals had moderate depression, followed by ($n=36$, 24%) who had mild, severe depression ($n=26$, 17.3%), and very severe depression ($n=7$, 4.7%).

Correlation Studies

SLEs with depression

The assessment of the association of SLEs with the severity of depressive symptomatology in the study

population revealed a significant statistical correlation ($\chi^2 = 65.9$, $P = 0.000$) between SLEs and the severity of depression [Tables 3 and 4].

These results signify that most persons with mild-to-moderate scores of SLEs correspond with mild-to-moderate severity of the depressive disorder. Similarly, as the severity scores of SLEs elevate, it also elevates the severity of depression. Hence, as the severity of SLEs increases, depression also increases, representing the positive relationship between SLEs and depression.

Therefore, a positive relationship between the studied variable has been validated. Correlation analysis was performed to delineate the relationship between the total presumptive SLEs score against the Hamilton depression rating scale score. The analysis established a significant positive correlation (correlation co-efficient = 0.8; $P = 0.000^*$) between the total presumptive SLEs and the Hamilton depression rating scale [Figure 1].

DISCUSSION

Our study included 150 participants, of whom 98 (65.3%) were women and 52 (34.7%) were men. This accords with the previous research showing a higher incidence of depressive disorder in females. Compared to men, women reported more distress, anxiety, and depressive symptoms (Wfians and Spitzer, 1983; Vitaliano *et al.*, 1989; and Zeidner and Ben-Zur, 1994).^[12-14] According to earlier studies, women were more likely than males to experience a depressive disorder.^[15]

For various biological factors, including genetic susceptibility, hormonal changes associated with various aspects of reproductive function, and excessive sensitivity to these changes in hormone levels in the brain systems that mediate depressive states, women are thought to be predisposed to depression. As a result of reproductive events such as infertility, miscarriage, oral contraceptives, and hormone replacement treatment, women have been reported to experience depression. Women can experience depression at various phases of the menstrual cycle (premenstrual dysphoric disorder, depression during pregnancy, postpartum depressive conditions, and menopausal depression). According to some research, women are more likely to experience depression due to psychosocial factors like role stress, victimization, sex-specific socialization, internalization coping style, and low socioeconomic status. In addition, women are more susceptible than men to depression brought on by stress.^[16]

Table 1: Classification of depressed individuals based on frequency total presumptive SLEs score (n=150)

Number of SLEs	Study population frequency	Study population percentage
1	28	18.7
2	52	34.7
3	43	28.7
4	16	10.7
5	5	3.3
6	3	2.0
7	1	0.7
8	2	1.3

SLEs: Stressful life events

Table 2: Classification of depressed individuals based on total presumptive SLEs score (n=150)

Category of stress	Frequency	Percentage
No stress	0	0
Mild/moderate stress	124	82.7
Severe stress	26	17.3

SLEs: Stressful life events

Table 3: Classification of study individuals according to the severity of depression (n=150)

Depression levels	Frequency	Percentage
Mild depression	36	24
Moderate depression	81	54
Severe depression	26	17.3
Very severe depression	7	4.7

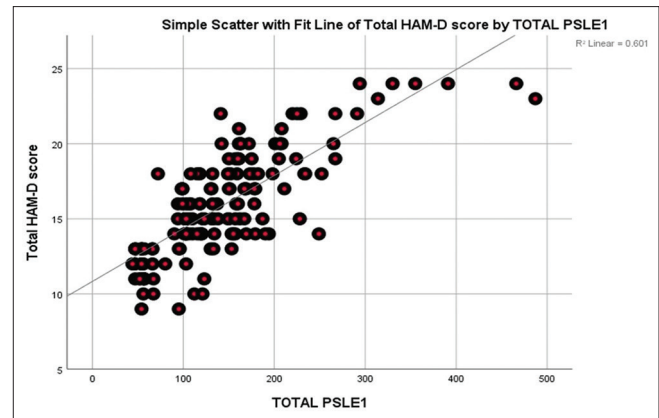
Table 4: Correlation of SLEs with severity of depression in the study population

Depression levels	SLE, n (%)		χ^2	P-value
	Mild/moderate stress	Severe stress		
Mild depression	36 (100%)	0 (0%)	65.9	0.000
Moderate depression	75 (92.6%)	6 (7.4%)		
Severe depression	13 (50.0%)	13 (50.0%)		
Very severe depression	0 (0.0%)	7 (100%)		

SLEs: Stressful life events

The Severity of Depressive Disorder

According to the Hamilton depression rating scale (HAM-D), patients were given a score based on the severity of their depressive symptoms. They were, then, categorized as mild (8–13), moderate, severe (14–18), or severe depression (19–22), and scores higher than 22 indicate very severe depression. According to the study's findings, moderate depression affected 54% ($n = 81$) of people, 24% ($n = 36$) were affected by mild depression, 17.3% ($n = 26$) suffered from severe depression, and 4.7% ($n = 7$) were very severely depressed.

**Figure 1: Correlation of total presumptive stressful life events score with Hamilton depression rating scale score**

SLEs

The study group's average SLEs score was estimated to be (145.3 ± 76.4) with a range of 44 to 487. They were also studied for the frequency of their occurrence, that is, the number of SLEs a person experienced during the past 1 year. There was one event at the very least, and eight at the very most. Two SLEs were encountered by most of the population ($n = 52$, 34.7%). Few people (11) had more than five significant life events in the last year. Patients were also categorized based on the sum scores of all life events during the previous year, which was correlated with the severity of depression.

Correlation of Severity of Depression with SLEs

Our research indicates that at least one SLE occurred for the study sample in the previous 12 months. Our study showed that patients with mild-to-moderate depressive disorders reported mild to moderately SLEs. Individuals with severe and very severe depression go through extremely hard life situations.^[17]

The severity of depressive symptoms also increases along with the severity of life events. According to the study, there is an association between the degree of depression and stressful situations ($\chi^2=65.9$, $P = 0.000$).

According to studies from the past, there is a link between SLEs and subsequent illnesses. Researchers have examined their significance in the origins of physical sickness for the past 30 years, but there has been less convincing evidence of a connection.

Today, biological characteristics brought on by a person's genetic makeup are referred to as "diathesis." However, the term "diathesis" has been broadened to include social and cognitive predispositions that could raise someone's risk of getting a disease like depression.

When the diathesis is present, the degree of stress will determine how the disorder manifests; as stress rises, the risk for the disorder in those with the diathesis also rises (Ingram and Luxton, 2005).^[15]

When compared to persons who do not experience any SLEs, a study by Muscatell *et al.* found that the majority of severe stressful events (such as the death of a spouse or family member, divorce, and financial loss) lead to the development of depressive symptoms within 6 months of their occurrence. Those who experience SLEs are at a higher risk of developing depression.^[18]

The onset of depressive disorder was strongly and significantly correlated with SLEs. Kendler *et al.*^[17] studied the association of depression with dependent and independent life events occurring in an individual's life. The study published a positive correlation between life events and the onset of major depressive disorder. The results of past studies correspond to our study, which shows a positive relationship between the frequency of SLEs and the severity of depression.

PSLES scores for SLEs and clinical depressive symptoms were shown to be closely associated in our study ($\chi^2 = 65.9$, $P = 0.000$), which resembled the results of Sokratous *et al.*^[16] ($\chi^2 = 40.06$, $P < 0.001$). Evidence suggests a linear relationship between depression and the severity and quantity of unpleasant events. Among university students in Cyprus, Sokratous *et al.*^[16] explored the frequency of depressive symptoms and their correlation with the quantity and intensity of self-reported SLEs. The prevalence of clinically substantial depressive symptoms, as evaluated by the CES-D, and SLEs, as assessed by the total number and score of SLEs, measured by the LESS, were found to be significantly linked.

Our study results correspond with the results of Muscatell *et al.*^[18] Bonde *et al.*^[19], Feizi *et al.*^[14], Young *et al.*^[20] Leggett *et al.*^[21], Chen *et al.*^[22], Tehrani *et al.*^[7], Mandelli *et al.*^[4], Hammen *et al.*^[5], and Monroe *et al.*^[23] which have published results about the association of SLEs with depressive disorder.

CONCLUSION

The severity of depressive disorder is higher among women, especially in middle age. In addition, as the severity of SLEs increases, the severity of depressive disorder also increases.

Limitations

It is a hospital-based sample and not truly representative of the community. In addition, the study sample was relatively

small and recruited from a single center. Therefore, there is no comparative group for the study sample.

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